

3/15/2013 12:45 PM

Stream depletion simplified...

Stream Depletion is independent of stream discharge same effect whether 1000 cfs or 10 cfs

Unless, of course, you dry up the stream

Stream Depletion is independent of well interference it is both cumulative and additive

1 well pumping 500 gpm

has the same effect as

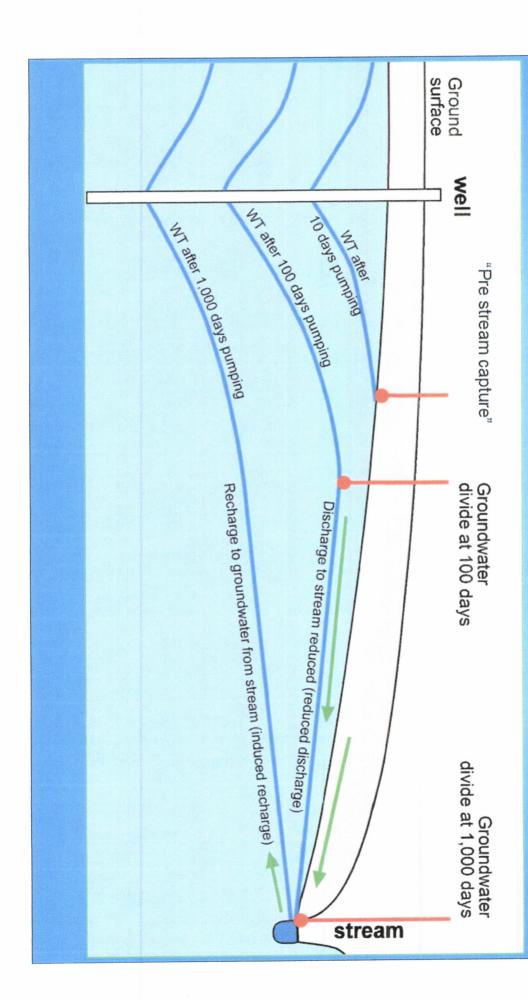
50 wells pumping 10 gpm

Stream Depletion is independent of distance from the well(s) to the stream BUT the RATE of depletion IS dependent on distance

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Stream depletion simplified...

Stream Depletion occurs before the "cone of depression" reaches the stream (some applications prior to HB831did not address this)



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CONCLUSION FROM USGS GALLATIN VALLEY GROUNDWATER STUDY

In 1964, the United States Geological Society (USGS) conducted a detailed study, multiyear study of the water resources of the Gallatin Valley including both surface and ground water. The study was conducted, in part, to determine if ground water could be used to expand irrigation.

After documenting a substantial ground water resource, the study concluded:

Increase in the consumptive use of ground water within the valley would reduce natural discharge from the valley by an amount equal to the volume used. Because the principal areas of ground-water discharge by evapotranspiration would be the last to be affected by withdrawals of ground water, nearly all the ground-water use would be reflected by a corresponding reduction in surface-water outflow from the valley. The reduction would be caused in part by a diminution of ground-water discharge into streams and in part by loss of surplus surface water to ground-water storage, and would occur principally during the later part of the irrigation season.